

Students Reading E-Books Are Losing Out, Study Suggests

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Could e-books actually get in the way of reading?

That was the question explored in research presented last week by Heather Ruetschlin Schugar, an associate professor at West Chester University, and her spouse, Jordan T. Schugar, an instructor at the same institution. Speaking at the annual conference of the American Educational Research Association in Philadelphia, the Schugars reported the results of a study in which they asked middle school students to read either traditional printed books or e-books on iPads. The students' reading comprehension, the researchers found, was higher when they read conventional books.

In a second study looking at students' use of e-books created with Apple's iBooks Author software, the Schugars discovered that the young readers often skipped over the text altogether, engaging instead with the books' interactive visual features.

While their findings are suggestive, they are preliminary and based on small samples of students. More substance can be found in the Schugars' previous work: for example, a paper they published last year with their colleague Carol A. Smith in the journal *The Reading Teacher*. In this study, the authors observed teachers and teachers-in-training as they used interactive e-books with children in kindergarten through sixth grade. (The e-books were mobile apps, downloadable from online stores like iTunes.)

While young readers find these digital products very appealing, their multitude of features may diffuse children's attention, interfering with their comprehension of the text, Ms. Smith and the Schugars found. It seems that the very "richness" of the multimedia environment that e-books provide — heralded as their advantage over printed books — may overwhelm children's limited working memory, leading them to lose the thread of the narrative or to process the meaning of the story less deeply.

This is especially true of what the authors call some e-books' "gimmicks and distractions." In the book "Sir Charlie Stinky Socks and the Really Big Adventure," for example, children can touch "wiggly woos" to make the creatures emit noise and move around the screen. In another e-book, "Rocket Learns to Read," a bird flutters and sounds play in the background.

Such flourishes can interrupt the fluency of children's reading and cause their comprehension to fragment, the authors found. They can also lead children to spend less time reading over all: One study cited by Ms. Smith and the Schugars reported that children spent 43 percent of their e-book engagement time playing games embedded in the e-books rather than reading the text.

By contrast, the authors observed, some e-books offer multimedia features that enhance comprehension. In "Miss Spider's Tea Party," for example, children hear the sound of Miss Spider drinking as they read the words "Miss Spider sipped her tea." In another e-book, "Wild About Books," sounds of laughter ring out as the reader encounters the line "Hyenas shared jokes with the red-bellied snakes."

The quality of e-books for children varies wildly, the authors said: "Because the app market allows for the distribution of materials without the rigorous review process that is typical of traditional children's book publishing, more caution is necessary for choosing high-quality texts."

They advise parents and teachers to look for e-books that enhance and extend interactions with the text, rather than those that offer only distractions; that promote interactions that are relatively brief rather than time-consuming; that provide supports for making text-based inferences or understanding difficult vocabulary; and that locate interactions on the same page as the text display, rather than on a separate screen. (E-books recommended by the authors are listed below.)

Once the e-books are selected, parents and teachers must also help children use them effectively, Ms. Smith and the Schugars said. This can include familiarizing children with the basics of the device. Although adults may assume that their little "digital natives" will figure out the gadgets themselves, the researchers have found that children often need adult guidance in operating e-readers.

Parents and teachers should also assist children in transferring what they know about print reading to e-reading. Children may not automatically apply reading skills they have learned on traditional books to e-books, and these skills, such as identifying the main idea and setting aside unimportant details, are especially crucial when reading e-books because of the profusion of distractions they provide.

Lastly, adults should ensure that children are not overusing e-book features like the electronic dictionary or the "read to me" option. Young readers can often benefit from looking up the definition of a word with a click, but doing it too often will disrupt reading fluidity and comprehension. Even without accessing the dictionary, children are able to glean the meaning of many words from context. Likewise, the read-to-me feature can be useful in decoding a difficult word, but when used too frequently it discourages children from sounding out words on their own.

Research shows that children often read e-books "with minimal adult involvement," Ms. Smith and the Schugars said. While we may assume that interactive e-books can entertain children all by themselves, such products require more input from us than books on paper do.